

Project Startup Report

Project Name: Disease Surveillance and Management System

Agency: North Dakota Department of Health

Business Unit/Program Area: Division of Disease Control

Project Sponsor: Kirby Kruger

Project Manager: Erin N. Fox

Project Description

To meet the business needs of the NDDoH as well as conform to federal standards, the NDDoH will implement a flexible and configurable, commercial off-the-shelf (COTS) electronic disease surveillance and outbreak management system. This will consist of a fully developed and proven operational solution to electronic disease surveillance and management as well as outbreak management. Historical data from several disparate systems will be loaded into the new solution by the vendor. The system must accept electronic laboratory reports in HL7 formats, provide canned reports and data extracts. The system must all meet necessary security constraints, including case assignment, viewability and editing. The solution must be configurable by the state so that as new data elements and requirements arise, they can be added as necessary.

Business Need or Problem

In 2003 the North Dakota Department of Health (NDDoH), contracted with a vendor to develop a web-based electronic disease surveillance and management system. Since that time, the needs of the department, as well as federal standards have continued to evolve. The vendor that was originally selected is no longer able to meet the needs of the department, federal standards, or support the current version of their software. As a result, the NDDoH is forced to look at other alternatives. The North Dakota Information Technology Division (ITD) has reviewed the software and determined that it would not be cost effective for NDDoH to have ITD upgrade the existing software that was originally developed by the vendor.

To conform to federal standards, the NDDoH must have an electronic disease surveillance system and outbreak management system (OMS). This system is necessary to meet the reporting requirements to the Centers for Disease Control (CDC).

Key Metrics

Project Start Date	Estimated Length of Project	Estimated Cost
07/28/2008	03/12/2009	\$550,000

Benefits to Be Achieved

Project Objectives	Measurement Description
Beginning go live date, conduct surveillance and investigations for all reportable conditions using one centralized surveillance system.	After the go live date, the NDDoH will evaluate the degree to which all reportable conditions are being reported and investigated using the new system and determine which ones, if any, are not.
Beginning go live date, the NDDoH will extract weekly reports from the surveillance system to be transmitted electronically to the CDC.	The extract will be evaluated in comparison with the data collected to ensure that the extract contains all necessary data. In addition, the extract will be verified by the CDC to ensure the correct format is being utilized.

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To decrease the lag time between when a physician clinically diagnoses or a laboratorian returns a positive result for a disease and the NDDoH is able to provide intervention. Currently the lag time varies by facility. Each facility will have to be evaluated individually and then the state as a whole. The goal is to have all conditions reported within 24 hours of diagnosis.	The NDDoH will calculate the time between report date and the date the investigation begins in the new system and in the old system and compare.
To adequately meet the alerting needs, the system must automatically generate user defined alerts when thresholds are breached. In addition, the system must interact with the Health Alert Network (HAN) for additional alerting capacity.	The NDDoH will conduct tests during user acceptance testing and then every six months to trigger alerts both within the system and with the HAN to evaluate the reporting capabilities.
Additional data analysis software such as SAS must be utilized to completely analyze the data. In order to do this, the data must be pulled out of the system by an end user, without the need for a programmer, into a file type that can be utilized by SAS.	The NDDoH will test the software during user acceptance testing and compare the exported data to the existing data in the system to ensure that all fields are contained.
To aid in the investigation of outbreaks and to meet federal requirements, the NDDoH must have an electronic outbreak management system. In addition, there must be complete integration between basic disease surveillance functionality and outbreak management.	The NDDoH will test the software during user acceptance testing and compare results to national standards to ensure that it conforms to federal standards for an outbreak management system and complies with the needs of the division.
The NDDoH must have the ability to add, retire and edit data fields without the need for a programmer so that changes can be made on the fly.	The NDDoH will test the software during user acceptance testing to ensure that all data fields can be manipulated by a system administrator without the need for a programmer.
To increase the number of laboratories that are reporting electronically and allow infection control personnel access to their data within the system.	The NDDoH will assess the number of laboratories that are reporting electronically prior to January 1, 2009 and on a quarterly basis after that. Prior to January 1, 2009, the goal is to have the Division of Microbiology reporting electronically. After that, the goal is to add one new laboratory each quarter.

Cost/Benefit Analysis

Decreasing the spread of infectious disease is difficult to evaluate in terms of cost saving dollars. Although the system will help with the tracking and monitoring of sporadic disease which occur naturally, the real benefit of this system will be the ability to receive reports rapidly and to aid in tracking cases, clusters, and epidemics. Rapid reporting of serious infections such as e coli 0157, meningococcal infections, measles, influenza, including pandemic influenza will help in reducing secondary cases. Rapid detection of outbreaks, bioterrorism events and other unusual disease clusters will be important for providing countermeasures such as vaccine and antibiotics to exposed individual and implementing such public health measures as isolation and quarantine and social distancing. This system will aid in the response to outbreaks, especially pandemic influenza and intentional releases of bioterrorism agents.

Key Constraints or Risks

- Short time frame from beginning of the project to implementation – If the time frame is not met, the funding expires and the project would be terminated. If this constraint were removed, the project would be less of a personnel resource burden.
- Schedule is the first priority. Budget and personnel time would be allowed to slip if necessary to keep the project on schedule. The second priority is budget and thirdly would be personnel time.
- Disease Control Personnel Knowledge – Due to staff turnover and shifts there is a potential for lost

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knowledge regarding work flows and program requirements.

- There is a potential that the vendor will not be able to meet all requirements.
- There is a potential risk that the product will be difficult to maintain after implementation due to poorly written code.
- There is a potential that the vendor will not be able to complete all requirements within the allotted time frame.
- Human resources available to the Division of Disease Control may be stretched.
- Federal standards may shift through the course of the project.

